

PROJECT ADMINISTRATION DATA SHEET

Project No. A-3586 (SUB 12 F-27-629) ☒ ORIGINAL ☐ REVISION NO. _____
Project Director: Hank Jackson ~~School~~/Lab TAL DATE 8 / 8 / 83
Sponsor: Office of Planning and Budget/Office of Energy Resources; Atl. GA

Type Agreement: Unnumbered Contract dated 6/17/83
Award Period: From 7/1/83 To 6/30/84 (Performance) _____ (Reports) _____
Sponsor Amount: 9-30-84
This Change Total to Date

Estimated: \$ _____ \$ 350,000

Funded: \$ _____ \$ 350,000

Cost Sharing Amount: \$ _____ Cost Sharing No: _____

Title: Industrial Energy Extension Service

ADMINISTRATIVE DATA

1) Sponsor Technical Contact:

OCA Contact John W. Burdette X4820

2) Sponsor Admin/Contractual Matters:

Mr. Phil Whitlow

Georgia Office of Energy Resources

270 Washington Street S.W.

Atlanta, GA 30334

Defense Priority Rating: N/A Military Security Classification: N/A
(or) Company/Industrial Proprietary: N/A

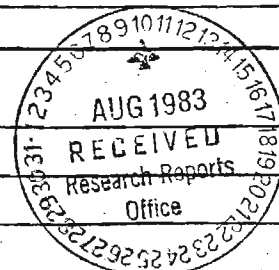
RESTRICTIONS

See Attached DOE Supplemental Information Sheet for Additional Requirements.

Travel: Foreign travel must have prior approval - Contact OCA in each case. Domestic travel requires sponsor approval where total will exceed greater of \$500 or 125% of approved proposal budget category.

Equipment: Title vests with none proposed

COMMENTS:



COPIES TO:

Project Director
Research Administrative Network
Research Property Management
Accounting

Procurement/EES Supply Services
Research Security Services
Reports Coordinator (OCA) ✓
Research Communications (2)

GTRI
Library
Project File
Other I. Newton

SPONSORED PROJECT TERMINATION/CLOSEOUT SHEET

Date10/26/84

Project No.A-3586XXXXX
School/LabTAL

Includes Subproject No.(s)

Project Director(s)Hank JacksonGTRI / XXXX

SponsorOffice of Planning and Budget; Office of Energy Resources; Atlanta, Ga.

Title"Industrial Energy Extension Service"

Effective Completion Date: 9/30/84 (Performance) 9/30/84 (Reports)

- Grant/Contract Closeout Actions Remaining:
- ☐ None
 - ☒ Final Invoice or Final Fiscal Report
 - ☐ Closing Documents
 - ☐ Final Report of Inventions
 - ☐ Govt. Property Inventory & Related Certificate
 - ☐ Classified Material Certificate
 - ☐ Other

Continues Project No. Continued by Project No. A-3892

COPIES TO:

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Research Communications (2)

Project File

Other A. Jones

Mildred H.



Georgia Institute of Technology
ENGINEERING EXPERIMENT STATION
Atlanta, Georgia 30332

April 18, 1984

Mr. Phil Whitlow
Georgia Office of Energy Resources
Trinity-Washington Building
270 Washington Street
Atlanta, Georgia 30334

Subject: Industrial Energy Extension Service Program Quarterly
Progress Summary Report for EES/GIT Research Project A3586
for period January 1, 1984 to March 31, 1984.

Dear Mr. Whitlow:

This report summarizes activities on Research Project A3586 for
the First Quarter, 1984.

Quarterly Goals

1. Continue energy audit and technical assistance program for industry.
2. Conduct two workshops, Waste Heat Recovery and Boiler Efficiency Improvement.
3. Print and mail first quarter issue of the Conserver.
4. Begin planning for last workshop, Energy Measurement Instrumentation and Techniques to be conducted May 16, 1984.
5. Continue program promotion, follow-up, and evaluation.
6. Compile results of survey questionnaire mailed out in last quarter.

Mr. Phil Whitlow
April 18, 1984
Page Two

Quarterly Activities

1. Statistics for in-plant activity:

	<u>Quarter</u>	<u>1983-1984 Cumulative</u>	<u>1983-1984 Program Goals</u>
Total Industry Contacts:	29	198	N/A
New Industry Contacts:	19	44	100
Plant Visits:	15	33	N/A
New Audit/TA Plants:	14	27	50
Unsolicited Requests:	12	32	N/A
Reports Sent:	9	19	N/A
Case Studies:	0	1	10
Completed TA's*	1	3	
Completed Audits:	9} 10	17} 20	50

*In-plant activity in a specific energy conservation area which culminates in a written report to company management.

2. The first quarter issue of the Conserver was mailed to 6,500 business and industry representatives as well to EES extension offices and Georgia State Legislators.
3. Conducted two workshops, Waste Heat Recovery and Boiler Efficiency Improvement in Atlanta. Total attendance was 54 people.
4. Results of industry survey questionnaire evaluated. Summary report attached.
5. Planning begun for Energy Measurement Instrumentation and Technology Workshop, to be held in May.
6. No quarterly evaluation of energy savings was conducted. All candidate industries were evaluated last quarter.
7. Provided reprints of Conserver article to Atlanta based engineering firms at their request.

Mr. Phil Whitlow
April 18, 1984
Page Three

Milestones Met During the Quarter

1. Successfully conducted improved version of Waste Heat Recovery Workshop, emphasizing small group problem solving sessions.
2. Estimated program savings by Georgia industries through the first quarter of 1984 was:

Cumulative total program savings of

104.9×10^{12} Btu/yr

for a cost savings of over \$334 million/
year. The energy savings goal for this
year is

8.0×10^{12} Btu/yr

to result in cumulative program savings of

101×10^{12} Btu/yr.

Respectfully submitted,

Hank Jackson
Program Director

mro

Attachments

STATE OF GEORGIA
INDUSTRIAL ENERGY EXTENSION SERVICE

Program Highlights - 8/1/77 - 3/31/84

TABLE 1

● Total Industry Contacts	1,936
● Plant Visits	785
● Audits Completed*	369
● Workshops Conducted	64
● Total Workshop Attendees	2,065
● Estimated Actual Energy Savings by Georgia Industry During Program Existence	104.9 trillion Btu's
● Estimated Actual Energy Cost Savings by Georgia Industry During Program Existence	\$334 million

*Includes in-plant technical assistance activity which is defined as work in a specific energy conservation area which culminates in a written report to company management.

TABLE 2 -- IEES ENERGY SAVINGS ESTIMATE

8/1/77 to 3/31/84

Actual Annual Savings (10^9 Btu's)

<u>Industry Group</u>	<u>Estimate through 4th Quarter 1983¹</u>	<u>Estimate for 1st Quarter 1984²</u>	<u>Cumulative Estimate through 1st Quarter 1984</u>
General	26,771	0.0	26,771
Textile	21,970	0.0	21,970
Chemical	30,094	0.0	30,094
Stone, Clay & Glass	<u>26,049</u>	<u>0.0</u>	<u>26,049</u>
Totals	<u>104,884</u>	<u>0.0</u>	<u>104,884</u>

¹Reported by group coordinators in December memoranda to H. Jackson.

²All eligible plants evaluated last quarter. Savings not evaluated this quarter.

IEES SURVEY QUESTIONNAIRE

GENERAL RESULTS

Number of Respondents: 67

Number of Industrial Respondents: 59

Total Receiving Assistance in Past: 34

Total Requests for Additional Information: 28

Percent of Respondents Who Have Not
Received Previous Assistance Who
Requested Additional Information: 73%

Number of Respondents in SIC Code	20:	12
	22:	11
	23:	2
	24:	1
	25:	2
	26:	2
	27:	2
	28:	9
	29:	1
	30:	1
	32:	6
	33:	2
	34:	3
	35:	3
	39:	2

WORKSHOP TOPIC PREFERENCE
Percent of Responses

<u>Workshop Topic</u>	<u>All</u>	<u>Ind</u>	<u>SIC Code</u>			
			<u>20</u>	<u>22</u>	<u>28</u>	<u>32</u>
Electric Motors	43	46	67	55	56	17
Lighting	40	41	33	55	56	0
Waste Heat Recovery	39	37	50	27	56	33
Boiler Efficiency	37	31	25	45	44	17
Process Control	31	36	58	27	67	17
Accounting	31	31	25	18	44	50
Steam Systems	31	27	42	18	67	17
Energy Management	30	32	33	27	56	17
Solar Applications	28	29	25	9	33	0
HVAC Systems	28	27	25	36	33	0
EMI&T	27	29	8	36	56	33
Refrigeration	22	24	67	36	11	0
Wood Fuels	16	19	17	9	22	33
Cogeneration	13	14	25	9	11	17
Incineration	12	12	8	9	11	0

WORKSHOP LOCATION PREFERENCES
Percent of Responses

<u>Location</u>	<u>All</u>	<u>Ind</u>	<u>SIC Code</u>			
			<u>20</u>	<u>22</u>	<u>28</u>	<u>32</u>
Atlanta	57	53	75	45	67	17
Macon	12	14	0	18	22	17
Augusta	4	5	0	9	0	17
Albany	9	10	17	9	0	17
Savannah	13	15	0	9	44	17
Rome	7	7	8	9	11	0
Columbus	3	3	0	9	0	0
Other	7	8	8	0	11	17

TECHNOLOGY TRANSFER PREFERENCE

Percent of Responses

<u>Transfer Method</u>	<u>All</u>	<u>Ind</u>	<u>SIC Code</u>			
			<u>20</u>	<u>22</u>	<u>28</u>	<u>32</u>
Workshops	63	64	75	55	89	83
Technical Manuals	58	59	67	36	78	83
Briefing Reports	49	51	58	27	78	50
Energy Tips	66	66	67	45	89	33
Case Studies	30	32	25	27	56	50

CONSERVER READERSHIP

All Responses

Total Responses:

Read Front to Back:

Read Only Items of Interest:

Read Hardly Ever:

Read Not at All:

Have Not Received:

Industrial Responses

Total Responses:

Read Front to Back:

Read Only Items of Interest:

Read Hardly Ever:

Read Not at All:

Have Not Received:

CONSERVER TOPIC PREFERENCE

All Responses

Total Responses:

General Interest:

Technical Article:

IEES News:

Equipment Evaluations:

IEESSAY:

Industrial Responses

Total Responses:

General Interest:

Technical Article:

IEES News:

Equipment Evaluations:

IEESSAY:



Georgia Institute of Technology
ENGINEERING EXPERIMENT STATION
Atlanta, Georgia 30332

July 13, 1984

Mr. Phil Whitlow
Georgia Office of Energy Resources
Trinity-Washington Building
270 Washington Street
Atlanta, Georgia 30334

Subject: Industrial Energy Extension Service Program Quarterly
Progress Summary Report for EES/GIT Research Project A3586
for period April 1, 1984 to June 30, 1984.

Dear Mr. Whitlow:

This report summarizes activities on Research Project A3586 for
the Second Quarter, 1984.

Quarterly Goals

1. Conclude energy audit and technical assistance program for
industry and deliver all reports to company management.
2. Conduct workshop, Energy Measurement Instrumentation and
Techniques.
3. Print and mail second quarter issue of the Conserver.
4. Complete six Tech Briefs on the following subjects:
 - Ultrafiltration for Industrial Separation Processes
 - Microwave Heating and Drying
 - Cogeneration: An Option for Georgia Industry
 - Fuel Cell Powerplant Technology
 - Industrial Process Uses for Fluidized Beds
 - Boiler Blowdown - Control and Heat Recovery

Quarterly Activities

1. Statistics for in-plant activity:

	<u>Quarter</u>	<u>1983-1984 Cumulative</u>	<u>1983-1984 Program Goals</u>
Total Industry Contacts:	70	268	N/A
New Industry Contacts:	70	114	100
Plant Visits:	5	38	N/A
New Audit/TA Plants:	23	50	50
Unsolicited Requests:	2	34	N/A
Reports Sent:	31	50	50
Case Studies:	6**	7	10
Completed TA's*	10	13	
Completed Audits:	20 } 30	37 } 50	50

*In-plant activity in a specific energy conservation area which culminates in a written report to company management.

**Tech Briefs

2. The second quarter issue of the Conserver was mailed to 6,500 business and industry representatives as well to EES extension offices and Georgia State Legislators.
3. Conducted Energy Measurement Instrumentation and Techniques workshop in Atlanta. Total attendance was 19 people.
4. Three Tech Briefs sent to printer. Final printing of all six to be completed in July under no-cost extension.
5. No quarterly evaluation of energy savings was conducted. All candidate industries have been previously evaluated.

Mr. Phil Whitlow
July 13, 1984
Page Three

Milestones Met During the Quarter

1. Completed all in-plant assistance and workshops per program plan. Extension required to complete Tech Briefs during July.
2. Estimated program savings by Georgia industries through the second quarter of 1984 were:

Cumulative total program savings of

104.9×10^{12} Btu/yr

for a cost savings of over \$334 million/
year. The energy savings goal for this
past year was

8.0×10^{12} Btu/yr

to result in cumulative program savings of

101×10^{12} Btu/yr.

Respectfully submitted,

Hank Jackson
Program Director

mro

Attachments

STATE OF GEORGIA
INDUSTRIAL ENERGY EXTENSION SERVICE

Program Highlights - 8/1/77 - 6/30/84

TABLE 1

● Total Industry Contacts	2,006
● Plant Visits	790
● Audits Completed*	399
● Workshops Conducted	65
● Total Workshop Attendees	2,084
● Estimated Actual Energy Savings by Georgia Industry During Program Existence	104.9 trillion Btu's
● Estimated Actual Energy Cost Savings by Georgia Industry During Program Existence	\$334 million

*Includes in-plant technical assistance activity which is defined as work in a specific energy conservation area which culminates in a written report to company management.

TABLE 2 -- IEES ENERGY SAVINGS ESTIMATE

8/1/77 to 6/30/84

Actual Annual Savings (10^9 Btu's)

<u>Industry Group</u>	<u>Estimate through 1st Quarter 1984¹</u>	<u>Estimate for 2nd Quarter 1984²</u>	<u>Cumulative Estimate through 2nd Quarter 1984</u>
General	26,771	0.0	26,771
Textile	21,970	0.0	21,970
Chemical	30,094	0.0	30,094
Stone, Clay & Glass	<u>26,049</u>	<u>0.0</u>	<u>26,049</u>
Totals	<u>104,884</u>	<u>0.0</u>	<u>104,884</u>

¹Reported by group coordinators in December memoranda to H. Jackson.

²All eligible plants evaluated. Savings not evaluated this quarter.



Georgia Institute of Technology
ENGINEERING EXPERIMENT STATION
Atlanta, Georgia 30332

A-3586

October 21, 1983

Mr. Phil Whitlow
Georgia Office of Energy Resources
Trinity-Washington Building
270 Washington Street
Atlanta, Georgia 30334

Subject: Industrial Energy Extension Service Program Quarterly
Progress Summary Report for EES/GIT Research Project
A3586 for Period July 1, 1983 to September 30, 1983

Dear Mr. Whitlow:

This report summarizes activities on Research Project A3586 for the Third Quarter, 1983.

Quarterly Goals

1. Continue energy audit and technical assistance program for industry.
2. Develop technology transfer program plan for new program year: workshops, Conserver, technical briefs.
3. Print and mail third quarter issue of the Conserver.
4. Begin planning for two workshops, Electrical Energy Management and Boiler Efficiency Improvements to be conducted during fourth quarter.
5. Continue program promotion, follow-up, and evaluation.
6. Prepare industry survey questionnaire to be used during first six months of program to determine needs of industry with regard to IEES program conduct.
7. Update mailing list.

Quarterly Activities

1. Statistics for in-plant activity:

	<u>Quarter</u>	<u>1983-1984 Cumulative</u>	<u>1983-1984 Program Goals</u>
Total Industry Contacts:	114	114	N/A
New Industry Contacts:	21	21	100
Plant Visits:	10	10	N/A
New Audit/TA Plants:	9	9	50
Unsolicited Requests:	14	14	N/A
Reports Sent:	5	5	N/A
Case Studies:	1	1	10
Completed TA's*	1	1	50
Completed Audits:	4 5	4 5	

*In-plant activity in a specific energy conservation area which culminates in a written report to company management.

2. The third quarter issue of the Conserver was mailed to 6,500 business and industry representatives as well to EES extension offices and Georgia State Legislators. A copy is attached.
3. Updated mailing list with over 600 changes, additions, and deletions.
4. Electrical Energy Management Workshop set for October 26 in Atlanta, with guest speakers from several vendors and the Georgia Power Company. Advance registration is in excess of twenty people.
5. Obtained co-sponsor for Boiler Workshop to be held in Savannah on November 9. Savannah Gas Company will provide facilities and program promotion.
6. Industry survey questionnaire completed, and approved by OER with minor corrections. Will be mailed around first week of November.

Mr. Phil Whitlow
October 21, 1983
Page Three

7. Evaluated six workshops and obtained energy savings estimates. Two workshops of the six were re-evaluations necessitated by poor response and business inactivity at the time of the initial evaluation. All prior reported savings were subtracted from savings obtained this quarter for these workshops being re-evaluated. See Tables 1, 2, and 3.

Milestones Met During the Quarter

1. Evaluated results of IEES program through the third quarter of 1983 (see attachments). Estimated program energy savings by Georgia industries for the third quarter of 1983 was:

$$6.99 \times 10^{12} \text{ Btu/yr}$$

This gives a cumulative total program savings of

$$100.7 \times 10^{12} \text{ Btu/yr}$$

for a cost savings of over \$311 million/year. The energy savings goal for this year is

$$8.0 \times 10^{12} \text{ Btu/yr}$$

to result in a cumulative program savings of

$$101 \times 10^{12} \text{ Btu/yr.}$$

Respectfully submitted,

Hank Jackson
Project Director

mro

Attachments

STATE OF GEORGIA

INDUSTRIAL ENERGY EXTENSION SERVICE

Program Highlights - 8/1/77-9/30/83

● Total Industry Contacts	1,738
● Plant Visits	752
● Audits Completed*	349
● Workshops Conducted	60
● Total Workshop Attendees	1,941
● Estimated Actual Energy Savings by Georgia Industry During Program Existence	101 trillion Btu's
● Estimated Actual Energy Cost Savings by Georgia Industry During Program Existence	\$311.9 million

*Includes in-plant technical assistance activity which is defined as work in a specific energy conservation area which culminates in a written report to company management.

TABLE 1 - IEES Workshops Evaluated

7/1/83 - 9/30/83 (3rd Quarter 1983)

<u>Location</u>	<u>Workshop Date</u>	<u>Topic</u>	<u>No. of Attendees</u>	<u>Total No. of SIC Companies Represented</u>	<u>No. of Attendees by Industry Group</u>			
					<u>General</u>	<u>Textiles</u>	<u>Chemicals</u>	<u>Stone, Clay & Glass</u>
Savannah	10/20/82	Electrical Energy Management*	36	20	20	0	16	0
Macon	11/10/82	Waste Heat Recovery*	13	7	11	0	0	2
Atlanta	1/26/83	Boiler Efficiency	28	22	16	8	3	1
Atlanta	4/20/83	Creative Financing	12	6	11	1	0	0
Atlanta	5/19/83	Boiler Efficiency	30	18	16	12	1	1
Atlanta	5/20/83	Instrumentation & Techniques	<u>28</u>	<u>18</u>	<u>16</u>	<u>9</u>	<u>2</u>	<u>1</u>
Total*			98	64	59	30	6	3

*Evaluated in 1982; re-evaluated this quarter due to poor response rate and business inactivity at time of first survey. Previous energy savings reported have been subtracted from savings reported during this evaluation. Attendees not included in totals.

TABLE 2 - IEES Energy Savings Estimate

7/1/83 - 9/30/83 (3rd Quarter 1983)

Actual Annual Savings (10^9 Btu's)

<u>Industry Group</u>	<u>Audits</u>	<u>Workshops</u>	<u>Basis</u>	<u>Expansion Factor</u> ¹	<u>Expanded Total</u> ²
General	1.7	342	343.7	15.5	5,670
Textiles	57	23	80	15.5	1,320
Chemicals	0	0	0	15.5	0
Stone, Clay & Glass	<u>0</u>	<u>0</u>	<u>0</u>	15.5	<u>0</u>
Totals	58.7	365	423.7		6,990

¹Expansion Factor = employment ratio x dilution factor. For this period, the employment ratio is 31 and the dilution factor is 0.5.

²Equals basis x (1 + expansion factor).

TABLE 3 -- IEES ENERGY SAVINGS ESTIMATE

8/1/77 to 9/30/83

Actual Annual Savings (10^9 Btu's)

<u>Industry Group</u>	<u>Estimate through 2nd Quarter 1983¹</u>	<u>Estimate for 3rd Quarter 1983²</u>	<u>Cumulative Estimate through 3rd Quarter 1983</u>
General	19,791	5,670	25,461
Textile	18,170	1,320	19,490
Chemical	30,094	0	30,094
Stone, Clay & Glass	<u>25,679</u>	<u>0</u>	<u>25,679</u>
Totals	93,734	6,990	100,724

¹Reported by group coordinators in July memoranda to H. Jackson.

²Shown in Table 2 of this report.



Georgia Institute of Technology

ENGINEERING EXPERIMENT STATION

Atlanta, Georgia 30332

January 13, 1984

Mr. Phil Whitlow
Georgia Office of Energy Resources
Trinity-Washington Building
270 Washington Street
Atlanta, Georgia 30334

Subject: Industrial Energy Extension Service Program, Quarterly
Progress Summary Report for EES/GIT Research Project
A3586 for Period October 1, 1983 to December 31, 1983

Dear Mr. Whitlow:

This report summarizes activities on Research Project A3586 for the Fourth Quarter, 1983.

Quarterly Goals

1. Continue energy audit and technical assistance program for industry.
2. Conduct two workshops, Electrical Energy Management and Boiler Efficiency Improvement.
3. Print and mail fourth quarter issue of the Conserver.
4. Begin planning for two workshops, Waste Heat Recovery and Boiler Efficiency Improvements to be conducted during first quarter of 1984.
5. Continue program promotion, follow-up, and evaluation.
6. Mail industry survey questionnaire to 6,000 industries on mailing list.
7. Evaluate program results for fourth quarter, and report energy savings.

Quarterly Activities

1. Statistics for in-plant activity:

	<u>Quarter</u>	<u>1983-1984 Cumulative</u>	<u>1983-1984 Program Goals</u>
Total Industry Contacts:	55	169	N/A
New Industry Contacts:	4	25	100
Plant Visits:	8	18	N/A
New Audit / TA Plants:	4	13	50
Unsolicited Requests:	6	20	N/A
Reports Sent:	5	10	N/A
Case Studies:	0	1	10
Completed TA's*	1	2	
Completed Audits:	4 } 5	8 } 10	50

*In-plant activity in a specific energy conservation area which culminates in a written report to company management.

2. The fourth quarter issues of the Conserver was mailed to 6,500 business and industry representatives as well to EES extension offices and Georgia State Legislators.
3. Updated mailing list with over 1,100 changes, additions, and deletions.
4. Conducted two workshops, Electrical Energy Management in Atlanta and Boiler Efficiency Improvement in Savannah. Total attendance was 70 people.
5. Industry survey questionnaire mailed out in early December.
6. Planning begun for Boiler Efficiency Improvement and Waste Heat Recovery Workshops, to be held in March.
7. Began development of manual for Energy Measurement Instrumentation and Techniques Seminar.
8. Evaluated energy savings through telephone survey of audited companies. See Tables 1, 2, and 3.

Mr. Phil Whitlow
January 16, 1984
Page Three

Milestones Met During the Quarter

1. Evaluated results of IEES program through the fourth quarter of 1983 (see attachments). Estimated program energy savings by Georgia industries for the third quarter of 1983 was:

$$4.16 \times 10^{12} \text{ Btu/yr}$$

This gives a cumulative total program savings of

$$104.9 \times 10^{12} \text{ Btu/yr}$$

for a cost savings of over \$334 million/year. The energy savings goal for this year is

$$8.0 \times 10^{12} \text{ Btu/yr}$$

to result in a cumulative program savings of

$$101 \times 10^{12} \text{ Btu/yr.}$$

Respectfully submitted,

Hank Jackson
Program Director

mro

Attachments

STATE OF GEORGIA
INDUSTRIAL ENERGY EXTENSION SERVICE

Program Highlights - 8/1/77 - 12/31/83

TABLE 1

• Total Industry Contacts	1,907
• Plant Visits	770
• Audits Completed*	359
• Workshops Conducted	62
• Total Workshop Attendees	2,011
• Estimated Actual Energy Savings by Georgia Industry During Program Existence	104.9 trillion Btu's
• Estimated Actual Energy Cost Savings by Georgia Industry During Program Existence	\$334 million

*Includes in-plant technical assistance activity which is defined as work in a specific energy conservation area which culminates in a written report to company management.

TABLE 2 - IEES Energy Savings Estimate

10/1/83 - 12/31/83 (4th Quarter 1983)

Actual Annual Savings (10^9 Btu's)

<u>Industry Group</u>	<u>Audits</u>	<u>Workshops</u>	<u>Basis</u>	<u>Expansion Factor¹</u>	<u>Expanded Total²</u>
General	20.3	0.0	20.3	63.5	1,310
Textiles	38.4	0.0	38.4	63.5	2,480
Chemicals	0.0	0.0	0.0	63.5	0.0
Stone, Clay & Glass	<u>5.8</u>	<u>0.0</u>	<u>5.8</u>	63.5	<u>370</u>
Totals	64.5	0.0	64.5		4,160

¹Expansion Factor = employment ratio x dilution factor. For this period, the employment ratio is (127) and the dilution factor is 0.5.

²Equals basis x (1 + expansion factor).

TABLE 3 -- IEES ENERGY SAVINGS ESTIMATE

8/1/77 to 12/31/83

Actual Annual Savings (10^9 Btu's)

Industry Group	<u>Estimate through 3rd Quarter 1983¹</u>	<u>Estimate for 4th Quarter 1983²</u>	<u>Cumulative Estimate through 4th Quarter 1983</u>
General	25,461	1,310	26,771
Textile	19,490	2,480	21,970
Chemical	30,094	0.0	30,094
Stone, Clay & Glass	<u>25,679</u>	<u>370</u>	<u>26,049</u>
Totals	100,724	4,160	104,884

¹Reported by group coordinators in September memoranda to H. Jackson

²Shown in Table 2 of this report